

AGRICULTURE-RELATED INJURIES

A young man started working on a local farm to earn his own keep. This was a 14-year olds' dream. Within the first year of employment, he was killed when he fell into a bale shredder while feeding the livestock. Later that same summer, a 46 year-old man was mowing a ditch with a tractor and pull-behind brush mower. As he tried to manipulate the steep embankment, he fell out of the driver's platform and was run over by both the rear tractor wheel and trailing mower. Equally devastating, a 36 year-old man drowned when the tractor he was operating near a manure lagoon slipped into the murky waters. Despite the heroic attempts to rescue him from the tractor's cab, this full-time farmer was pronounced dead at the scene of his family operated dairy.

Defining The Problem

For the past 40 years, the National Safety Council has consistently ranked agriculture as one of the top three most hazardous occupations in the United States.¹ Because of its broad scope, the farm environment is not limited to any one particular kind of hazard. The farm possesses a multitude of dangers including falls, burns, poisonings, machinery, livestock, and environmental hazards. Factors that contribute to an unsafe work environment include a limited work force with seasonal time pressures, dependency on weather conditions and variation in climatic patterns, and a stressed economy including urban-rural competition for productive farm acres. Although farmers account for 2% of the workforce population, they experience a high rate of the work-related injuries and deaths.

A farm is defined as a place with annual sales of agricultural commodities of \$1,000 or more. Of the 2 million farms in the United States² more than two-thirds are small part-time operations relying mainly on family members for labor.³ Furthermore, farms with fewer than 11 paid employees are exempt from certain federal occupational safety and health regulations. Farming is vastly different from other occupations in that the home, work and recreational areas are one in the same. On many farms, it is difficult to define where the backyard ends and the barnyard begins.

Goals

Reduce deaths from agriculture, forestry and fishing work-related injuries.

HP 2010 Goal 16.9 per 100,000 workers 16 years and older

Ohio 1999 24
US 1998 24.1

Data source: Census of Fatal Occupational Injuries (CFOI), DOL, BLS.

Reduce agriculture, forestry and fishing work-related injuries resulting in medical treatment, lost time from work, or restricted work activity.

HP 2010 Goal 4.3 injuries per 100 full-time workers 16 years and older identify baseline

Ohio
US 1998 6.2

Data sources: Annual Survey of Occupational Injuries and Illnesses, DOL, BLS; National Electronic Injury Surveillance System (NEISS), CPSC.

Data

Currently there is a gap in the fatality and injury reporting systems for the agricultural occupation.⁴ The United States does not have a unified reporting system, where one single agency collects and disseminates occupational injury data. With at least ten credible sources of work-related morbidity and mortality data, caution must be used when interpreting reported agricultural injury or death rates.⁵ Similar to other occupational injuries, different case definitions may be used by various agencies to report agriculturally-related injuries, especially those diagnosing specific agricultural health concerns. Another example of data discrepancy can be found with victim age. Since most industries do not employ persons under the age of 14, published statistics often exclude children. And still another disputable area comes with the OSHA exemption for filing injury reports on farms with fewer than 11 employees. Consequently, safety specialists argue that agricultural injury statistics, although high, are actually underreported.⁶ The compilation of these factors make it difficult to compare the agricultural industry to other industries.

Fatality Reports

In 1999, there were approximately 23 deaths per 100,000 workers in the agricultural sector (agriculture, forestry, and fishing). The average annual fatality rate for the United States civilian working population for this same time period was approximately 4 deaths per 100,000 workers.⁷



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In 1999, the agriculture sector fatality rate was 23 deaths per 100,000 workers compared to a rate of 4 deaths per 100,000 workers in the general workforce.

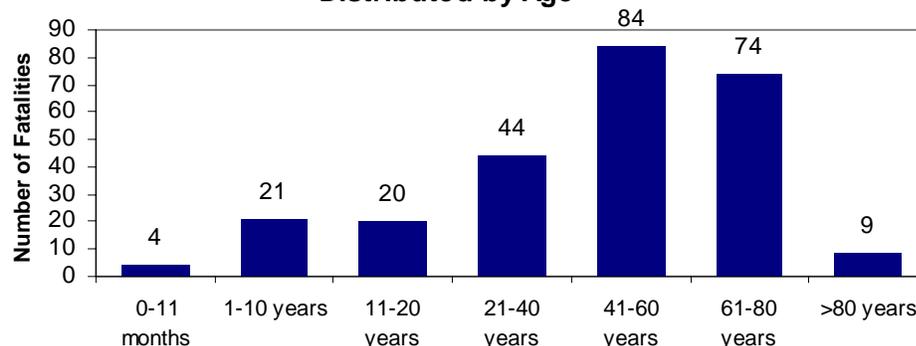
In Ohio, farm-related mortality statistics are identified by two independently reliable systems, the Ohio Department of Health (ODH) and The Ohio State University (OSU). ODH uses Vital Statistics, coroner reports, Worker's Compensation reports, police reports and newspaper articles to determine agricultural-related injury deaths. The Vital Statistics data reports deaths by occupation and location, excluding children; while the coroner data reports deaths by all ages and includes location of injury, such as a farm. It should be noted that coroner reports vary, based on the fact that there are no standardized data collection forms, these reports are not computerized, and there is no statewide database of such information. OSU maintains an agricultural injury database, the Farm Fatality and Injury Database of Ohio (FFIDO). This system compiles data from a variety of sources including death certificates, newspaper clippings, agency injury reports, and personal testimonies. Annually, ODH and OSU cross-reference their databases and make adjustments for any discrepancies, so as to describe an accurate picture of Ohio agricultural-related deaths.

In the last ten years, January 1992 to January 2001, Ohio documented 277 farm-related fatalities.⁸ Over 70% of fatalities occurred from May through October, with July being the deadliest month. The farm tractor accounted for over half of Ohio's fatalities (57%); yet when combined with other agricultural machinery, it accounted for 63% of all fatalities.

Injury Reports

Documenting agricultural-related injuries is a larger task than it first appears. Tracking acute injuries as well as chronic illnesses sustained from agricultural activities requires sophisticated surveillance systems, or at a minimum, communication between multiple tracking systems. Data systems are fairly accurate in documenting work-related injuries when employers use Worker Compensation, medical and insurance programs. However for the self-employed farmer, family members, or submissive employees, such records are virtually nonexistent. The very definition of "injury" to a farm worker varies significantly.

1993-2002 Ohio Farm Fatalities Distributed by Age



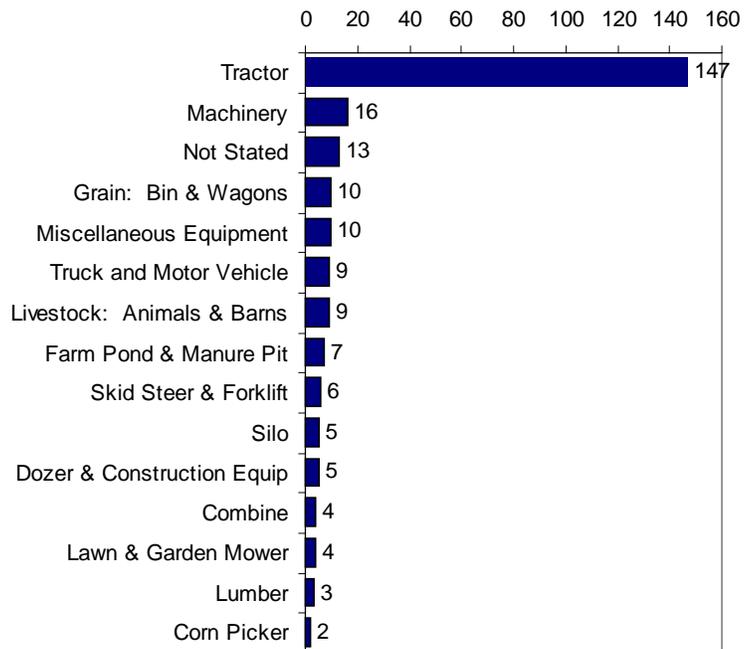
Unless it is a serious injury, the event usually goes unreported and/or self treated.

Each day in the U.S., approximately 500 agricultural workers suffer lost-work-time injuries, about 5% of these result in permanent impairment.⁹ Those who work in agriculture are also at increased risk for occupational morbidity from musculoskeletal disorders, certain cancers, reproductive disorders, dermatological conditions, zoonotic diseases, hearing loss, stress-related mental disorders, and occupational lung diseases. However, for the most part these injuries are difficult to quantify and accurately attribute to the agricultural environment. Current health surveillance systems are not adequately reporting agricultural chronic exposures or injury data.

In an effort to understand and quantify Ohio agricultural injuries, two independent projects were federally sponsored by the National Institute for Occupational Safety and Health (NIOSH). The first involved a cooperative agreement with the Ohio Department of Health to establish Occupational Health Nurses in Agricultural Communities (OHNAC), and then subsequently, the Community Partners for Healthy Farming Project was funded for an 8 year period. Three rural hospitals, Wooster Community Hospital, Clinton Memorial Hospital and Grady Memorial Hospital, were funded as surveillance centers as part of these cooperative agreements. Agricultural-related injuries were identified primarily through emergency department, inpatient and outpatient records. The case definition used to identify farm injury/illness was: "a non-household injury or illness incurred on the farm by any farmer, farm worker, farm family member, or other individual; or any of the farm injury or illness incurred by a farmer, farm worker, or farm family member in the course of handling, producing, processing, transporting, or warehousing farm commodities.

Over 2,000 injuries, primarily lacerations and fractures, were identified through the Ohio Department of Health surveillance system.¹⁰ Approximately 75% of the injuries were to males. While injuries were identified to all age groups from 1 to over 80 years old, the highest number of injuries was in the 30 to 40 year old age group. Injury causes were linked to machines, falls and animals. The animals most commonly associated with injuries were horses (60%), cattle (24%) and swine (5%).

1993-2002 Ohio Farm Fatalities Distributed by Injury Agent



A second NIOSH funded project involved a cooperative agreement with The Ohio State University School of Public Health and College of Agriculture. The Farm Family Health and Hazard Surveillance Study quantified health data from 2,571 Ohio cash grain farmers using a mail questionnaire. This research described the injuries sustained to all people living and/or working on the farm in a one-year period. This description included the number of injuries sustained, body part(s) injured, how the injury occurred, the source of energy imparted to the injured subject, and activity of the subject at time of injury.

Analysis of the OSU data showed a wide range of self-reported injuries. Farm machinery was the highest reported agent of injury (22.1%), followed closely by overexertion and muscle strains (20.4%), and falls (20.0%).⁵ Other identified injuries occurred from tools (9.4%), animals (6.0%) and motor vehicles (4.7%). The remainder of injuries was due to bicycle mishaps, poisonings, fire, insect bites or stings, foreign bodies in the eye, or was unspecified. ^{ibid}

Areas of Concern

On the farm, tractors and machinery account for the majority of serious injuries and fatalities. Hazard characteristics associated with tractor operation include tractor stability on hills, embankments and ditches; Power Take-Off (PTO) and hydraulic assisted mechanization; tractor rollover of operator and/or extra riders; tractor age, maintenance and alterations of mechanical parts; and operator variability as related to training and age.¹²

Rural roads possess different problems for the tractor operator and motoring public, and there are several hazards associated with their interaction. The primary concern is the proper lighting and marking of agricultural machinery and horse-drawn vehicles. Not only is it important for the agricultural operator to comply with the state laws to identify their slow-moving equipment, but it is also imperative the motoring public understand the slow-moving vehicle (SMV) emblem and react accordingly. Over the years the SMV emblem has lost much of its identity in that farmers allow faded emblems to stay on equipment, which reduces their visibility; and many Amish communities still resist the adoption of the lighting recommendations for horse-drawn vehicles. Still a greater, illegal concern is that the SMV emblems are misused as driveway, mailbox and building markers by both farmers and the general public alike. Effective use of a highway emblem will increase safety awareness and decrease highway injuries.

Respiratory hazards are often associated with crop and livestock production. Farm structures like the silo, grain bins, manure storage facilities, and livestock confinement barns are environments possessing the greatest respiratory hazards. Farmer's Lung Disease and Organic Dust Toxicity Syndrome have been found particularly among dairy and swine workers. Many agriculture health-related hazards are difficult to identify because of the delayed appearance of symptoms or ill-effects, confounding exposure variables, and unhealthy life-styles or behavior patterns.¹²

Suffocation in agricultural occupations usually are associated with solid flowing materials such as grain, or in confined spaces that may lack



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oxygen such as silos, tanks, and refrigeration units.

Drowning on farms can occur in many settings, including farm ponds, manure pits or lagoons, field ditches, livestock watering tanks, and plastic buckets. The National Institute for Occupational Safety and Health (NIOSH) has estimated that during the period 1982 – 1996, 585 persons less than 20 years old died by drowning on United States farms. NIOSH during that same time period estimated that in Ohio, 29% of deaths to persons on farms less than 20 years old was attributed to drowning.¹⁵

Poisoning for agricultural occupations are most often caused from the ingestion or absorption of chemicals used in the production of crops or livestock. Poisoning also occurs from the inhalation of mold spores, dusts, and gases during the planting, harvesting and storage of food and fiber. Many farm homes are older structures that may have confounding lead exposure problems. Currently there are no reporting requirements for doctors or hospitals to report agricultural related poisonings or diseases (such as farmers lung) that result from an agricultural poisoning exposure.

Costs & Consequences

The cost of farm-related injury is difficult to estimate. Besides lost employee work time, there is also potential for loss of crop or animal production, machinery expense, and cost of family caregiver's time.

Nonetheless, costs for agricultural injuries in recent years appear to be of considerable size, estimations between \$3.14 billion and \$13.99 billion.¹⁷ Such costs are comparable to costs of job-related cancers (\$9.4 billion), job-related chronic obstructive pulmonary disease (\$3.9 billion), as well as the overall costs of Hepatitis C in 1997 (\$5.46 billion). Whereas agriculture contributes roughly 1.8% of the gross national product, it accounts for roughly 3.5% of all occupational injury costs nationwide. In other words, agriculture contributes twice as much to the cost of national occupational injuries as it does to the national economic output.¹⁷



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Populations at Risk

Due to the diverse nature of the industry, agriculture cannot be easily compared with other industries. The agricultural industry comprises many facets, not just production farming. According to Standard Industry Codes (SIC), the agriculture industry includes fish hatcheries, forestry and agricultural services like co-ops, fertilizer dealers and veterinarians. The following sections will introduce the unique facets of the agricultural industry in terms of special populations.

A Broad Workforce

The agricultural industry is comprised of a work force where the majority of workers are white (93.5%) males (75.6%) between the ages of 25 and 44 years of age.¹¹ Over the past ten years this age group accounted for 22% of all agricultural-related fatalities in the state of Ohio, leaving 78% of the deaths falling outside of the predominate workforce age.⁸ According to this data, the primary agricultural workforce is relatively "safe" when compared to other age categories. The two age groups reporting high fatality rates are the "under 25" and the "over 55" populations.

Children

On the farm, children are present for a variety of reasons. Some of the more difficult issues involve children working for economic necessity, parents wanting to instill a sense of responsibility and work ethic, lack of child care options, and the cultural tradition of the entire farmstead as a giant playground.¹² However, youth generally lack the physical, mental and emotional ability to perform agricultural tasks in an adult manner. It's often the combination of minimal operating experience and general knowledge of mechanical equipment that puts young farm workers at risk. Parents often overestimate the youth's ability to perform tasks; typically parents rely upon their own assessment of the child as a basis of task readiness and do not use any workforce guidelines for job assignment. Unlike other occupations, young farm workers are seldom given adequate safety instruction, training or work supervision.

Elders

In agriculture, it is difficult to define an age of retirement. Failing eyesight, loss of hearing, arthritis and slower reaction times are just a few of the age-related problems affecting the safety and health of older farm workers.¹² Coupled with the physical limitations, most aging farmers do not have the financial resources to invest in replacement or maintenance of farm structures and older machines. Maintaining floorboards, ladder rungs, and stair railing in older farm structures is a concern for preventing slips and falls for this population. Older equipment is less likely to have machine guarding or be equipped with updated engineering devices like the newer farm equipment. Tractors with secured hand-holds and lowered footsteps are especially needed for the operator's balance and ability to climb on and off of the platform; features that are generally lacking on older tractor models.

Farmers with Off-Farm Full Time Employment

Economic necessity often influences farmers to seek off-farm employment. Juggling a full-time job off of the farm creates additional stress for the farm operator when he or she returns home. To compensate for missed hours on the farm, these operators must work late hours with minimal sleep and inadequate meals to accommodate the livestock and crop schedules. The risk for safe machine operation is a serious concern for this population. Machinery is more likely to be pushed to its limits and maintenance schedules compromised in a rush to complete the task. Operators can have distracting thoughts from the job they just left, work with hazardous equipment with less than alert behavior, and be under increased time stress than their full-time farmer counterparts.

Migrant and Seasonal Workers

The hired workforce in agricultural operations also consists of migrant and seasonal workers. The total number of hired workers is not precisely known and is largely dependent upon the type of operation. Similarly, the number of days worked will vary with the type of commodity produced. Hired farm workers generally have less formal education, with minority workers having significantly lower levels of education than white farm workers. The predominate risk factors of hired farm labor is the extensive variability in personal characteristics of the hired workforce, the length of their employment and the types of work assigned. Because of the vast variety between commodities, it is difficult to generalize occupational safety and health principles. By tradition, the work culture in farming is such that workers generally do not speak up for themselves in matters of safety and health.

Disabled

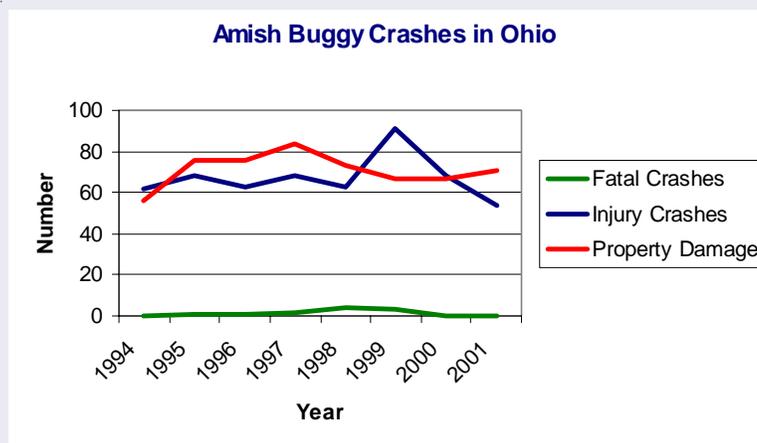
Farmers suffering from disabling injuries, either from causes on or off the job, will continue to farm regardless of their injury. Many farmers have been farmers since they were very young and have known no other line of work. Their ability to return to the farm is part-and-parcel to their definition of who they are as people. A farmer is not likely to look for work in another vocation, claiming his skills do not match, or he is too old to return to the workforce. The employment rate for people with disabilities is low. According to the March Supplement of the Current Population Survey, the employment rate for men with disabilities has wavered between 29 percent and 40 percent between 1980 and 1998.¹³ For women with disabilities, the picture is bleaker, with employment rates between 24 percent and 30 percent in the same time frame. Knowing these facts, it is all the more important that services be tailored to focus upon increasing independence for farmers and keep them actively engaged in farmwork if at all possible.

Hobby Farmers and Urban Sprawl

A rapidly growing farm population includes hobby farmers and Ohio residents with small plots of ground large enough to support some type of agricultural use. For example, these residents may have horses, livestock, or specialty crops. Their operation is large enough to warrant use of a tractor and various pieces of machinery. The farm structures needed for their small-scaled farming operation may not have proper ventilation or be used in the manner in which it was originally intended. Even if these rural residents do not actually participate in farming practices, they may have a small horse-powered tractor to mow their yards, plow snow from their driveways, and cut wood using an attached hydraulic wood splitter. The primary hazard with this population is they lack adequate machine operation knowledge and skills. They are also generally unaware of agricultural health concerns, especially with noises, dusts, and environmental effects.

Amish and Mennonite Communities

Ohio has the largest settlement of Amish anywhere in North America. For generations this population has used horse-drawn buggies as their primary method of transportation. While this use of buggy transportation has remained constant, rural populations have increased and tourism in Amish communities has risen. This has led to many more motorists sharing the same roads as buggies. The late 1990's documented a peak of buggy/motor vehicle collisions. Since 1999, the number of crashes has decreased and no fatalities have been reported in a three-year period.¹⁴



Policy Issues

National Legislation:

As a result of the high incidence rates of injuries and fatalities to youth in agricultural operations, the United States Department of Labor formulated the Hazardous Occupations Order in 1968. This order specified a number of agricultural tasks considered hazardous for youth under the age of 16 to perform. Agricultural tasks such as driving a tractor greater than 20 horsepower and operating or even assisting to operate specific types of machinery, such as a corn picker, combine, feed grinder, hay baler, forklift, power driven post-hole digger, etc., were included as being hazardous. A complete list of agricultural tasks can be found in Appendix A. The Code of Federal Regulations (1990) reaffirmed the Department of Labor's Hazardous Occupations Order, and required persons under the age of 16 to become certified in safe machinery operation by completing a certification course.¹⁶ This course continues to be required of youth seeking agricultural employment on a farm not owned or operated by the person's parents or legal guardians.

State Legislation:

In the Ohio revised Code (ORC), several laws exist for the overall health and safety of the farmer or farm worker. Refer to Appendix B for a listing of these codes. In accordance with the Hazardous Occupations Order (1968), the Ohio Revised Code (1992) promulgates the federal regulations in areas of youth employment.

Existing Programs

National:

The Centers for Agricultural Disease and Injury Research, Education, and Prevention represent a major NIOSH effort to protect the health and safety of agricultural workers and their families.¹⁸ The NIOSH Agricultural Centers were established as part of a Centers for Disease Control and Prevention (CDC) / NIOSH Agricultural Health and Safety Initiative in 1990. The Centers were established by cooperative agreement to conduct research, education, and prevention projects to address the nation's pressing agricultural health and safety problems. Geographically, the Centers are distributed throughout the nation to be responsive to the agricultural health and safety issues unique to the different regions.

The youth certification course in safe machinery operation can be either a Tractor Certification Course or a Tractor and machinery Certification Course. These courses are available through state agencies funded by the Federal Extension program and the United States Office of Education. Guidelines for offering a Tractor Certification Course are outlined in the Federal Code of Regulations (1990).

State:

One of the NIOSH Agricultural Centers, the Great Lakes Center, is based at The Ohio State University (OSU). The goal of the Great Lakes Center for Agricultural Safety and Health is to promote agricultural safety and health for farm, forestry and fishery employers, workers, families and their communities in the Great Lakes region.¹⁹ The Great Lakes Center serves the states of: Illinois, Indiana, Kentucky, Michigan, Ohio, Pennsylvania, Wisconsin and West Virginia. The states within the Center's working circle share many common attributes, i.e., crops, farming practices, farm sizes, migrant streams, poverty in the Appalachian areas, strong commercial fishing and timber industries, to mention a few. Current efforts by the Center include an agricultural asthma study, a sun safety/skin cancer prevention program for pesticide applicators, a study of farm air quality and farmer worker's exposure level to aerial pollutants, a study of noise levels within agricultural equipment, a feasibility project to determine the effectiveness of a grain rescue tube, and coalition building in Michigan for farm safety initiatives.

Since the inception of the Hazardous Occupations Order, the Tractor Certification course has had only slight modifications. In Ohio, it appears the courses received little attention until 1979, when the State Safety Leader explicitly provided guidelines and operating procedures for Extension Agents to follow when teaching these safety courses.²⁰ However since this time, technology has revolutionized agricultural machinery by increasing the size of tractors and implements, as well as computerizing their controls.

General farm safety information is offered to agricultural audiences in a multitude of formats including written brochures and fact sheets, short tailgate training programs for employers, half- and one-day technical training workshops for workers, and for the younger audiences there are farm safety day camps. A variety of farm safety advocates teach safety concepts through hospital outreach programs, USDA Cooperative Extension programs, Ohio Farm Bureau safety programs, and private agricultural businesses. Schools with vocational agricultural or agriculture-science programs, offer safety training as a significant part of their course work.



Possible Funding Sources

1. Funding available through USDA to provide Tractor Certification Programs to youth employees.
2. Funding available through USDA to establish an AgriAbility Program to serve farmers with disabilities.
3. Funding provided to community service agencies like Cooperative Extension, Farm Bureau, Ohio Department of Public Safety and rural hospitals to increase safety education programs.
4. Funding through farm insurance companies to give farm operations a break in insurance premiums if farmsteads engage in safety education programs, install fire detection and prevention equipment, maintain equipment safeguards and practice safe behaviors, like wearing a seatbelt in farm vehicles and tractors with roll-over protective structures.

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Recommendations to Prevent Agriculture-Related Injuries

Improve surveillance

1. Create a task force to assess the current statewide surveillance system for agricultural-related injuries and to recommend modifications. The surveillance system should be capable of tracking injuries throughout the system of care.

Empower communities

2. Create a resource list and publicize existing, well-evaluated agricultural safety curricula to vocational agricultural programs and community youth organizations, such as the Farm Bureau Youth clubs, FFA and 4-H.
3. Provide direct education and assistive technology for farmers with disabilities through statewide coordination of agencies. Establish a toll-free number and website for farmers to access information and services.

Expand training & evaluate programs

4. Implement a targeted awareness and outreach campaign to educate parents and agricultural employers about the North American Guidelines for Children's Agricultural Tasks (NAGCAT) for assigning age appropriate tasks to youth workers.
5. Develop and implement a targeted awareness and outreach campaign for older populations focusing on heavy machine operation, slips and falls in agricultural settings, and medication interactions. Use family members, senior community groups, and doctor offices to circulate publications on issues related to the aging farmer.
6. Develop and provide culturally-appropriate education programs for seasonal and migrant workforces focusing on occupational safety and health principles. Increase the number of safety and health publications available in Spanish.
7. Provide occupational safety and health programs to employers of migrant and seasonal workers.
8. Develop targeted safety education programs for residents in rural developments. Topics of interest include animal safety, machine guarding, tractor safety and the importance of Roll-Over Protective Structures. Health and environmental hazards are also important topics.

Target resources toward high-risk groups

9. Use existing youth safety programs and the tractor certification program to raise awareness of the hazardous conditions in agricultural settings for youth living, working or visiting farms.
10. Provide annual reminders via insurance carriers and worker compensation programs to agricultural employers regarding hiring youth employees to increase awareness of and enrollment in youth certification programs.

Special Population: The Amish

11. Implement a public awareness campaign to encourage the motoring public to share the road with Amish buggies and agricultural equipment. Provide brochures for motorists describing the hazards of rural travel, including issues like speed, blind areas on hills and sharp curves, and closure distances between a motor vehicle and a slow-moving vehicle. Publications should be made available at local Bureau of Motor Vehicle agencies, Visitor Bureaus, community motels and bed & breakfast establishments, and other tourism agencies. Specific education strategies should be emphasized in driver education programs.
12. Continue to support relationships developed between OSU Extension and Ohio Department of Public Safety through the Amish Safety Committee to assist Amish and Mennonite sects in adopting lighting and marking standards for their horse-drawn vehicles to reduce roadway-related injuries in these populations.
13. Improve roadway safety conditions in areas with high Amish populations. Provide funding for Ohio counties with animal-drawn vehicles to widen shoulders and bridges, construct pull-off lanes, and erect warning signs for the motoring public.

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Appendix A

Hazardous Occupational Order for Agriculture

Code of Federal Regulations as of December 29, 1971, U.S. Department of Labor

The United States Secretary of Labor defines some agricultural tasks "hazardous" to persons under the age of 16 years. These youth may not be employed at any time in these jobs, unless exempted by a training certificate. Child labor laws apply whether or not the youth is paid for work.

Hazardous farm tasks for minors include:

1. Operating a tractor larger than 20 horsepower, or connecting/disconnecting implements.
2. Operating or assisting with machines, including a corn picker, combine, hay mower, forage harvester, hay baler, feed grinder, crop dryer, forage blower, auger conveyor, wagon or trailer unloading mechanism (powered or self-loading), powered posthole digger, post driver, non-walking rotary tiller.
3. Operating or assisting with machines, including trencher or earth-moving equipment, fork lift, and a power-driven circular, band or chain saw.
4. Working in a livestock yard, pen, or stall occupied by a bull, boar, or stud horse maintained for breeding purposes, and sow or cow with newborn offspring.
5. Working with timber.
6. Working from a ladder or scaffold above 20 feet, including tasks that require painting, tree-pruning, or fruit harvest.
7. Riding a tractor or transporting passengers in a bus, truck, or automobile.
8. Working inside storage structures for fruit, forage, grain, or manure that might have an oxygen-deficient or toxic atmosphere, or working in an upright silo within two weeks after silage has been added or when top unloading device is operating, or packing a horizontal silo with a tractor.
9. Handling or applying farm chemicals classified I or II by the Federal Insecticide, Fungicide, and Rodenticide Act.
10. Handling or using a blasting agent.
11. Transporting, transferring or applying anhydrous ammonia.

Exemptions:

- Youth under 16 years of age may work on their parents' (or legal guardians') farm. There are no legal restrictions for a child who works on a farm owned/operated by a parent or legal guardian. However, the parent should have the day-to-day control of the farm, and the work should be performed on the owned/operated property.
- Youth under 16 years of age may work as a student learner. Youth enrolled in a vocational agricultural program may perform any of the first 6 hazardous tasks. These tasks must be incidental to training, occur for short periods of time, and be under close supervision of a qualified person. The primary function of the work is to expand the student's educational experience. Special coordination between employer, employee, and the school is required.
- Youth under 16 years of age may work if they completed a certified tractor or machine operation training course. This exemption is part of the 4-H Federal Extension Service Training Program, which allows 14- and 15- year olds to perform hazardous tasks in the first 2 categories listed above. Courses are available from two sources: local Extension offices or vocational agricultural programs in public school systems.

Work Hours:

Youth under the age of 16 can only be employed part-time. Federal law states that youth may not work during school hours.

Record Keeping:

Farm operators can protect themselves from unintentional violation of child labor laws by keeping an employment or age certificate on file for every youth under the age of 16 employed in their operation. The following information is helpful: full name, home address, date of birth, and a certificate of training.

When a student is hire during school hours, a work permit is needed. Such permits are usually issued by the superintendent of the local school district or the Job Service Division of the Department of Employment Service. To get a permit, the youth worker must provide a written statement from the employer agreeing to employ the worker and describing work to be performed.

Appendix B

State of Ohio Law: Application to Injury Prevention on Agricultural Occupations

State Law Number	Title	Explanation
Title 9 – Agriculture 901.03	Rules and regulations	Department of Agriculture shall adopt reasonable and proper rules and regulations to govern its proceedings and to regulate the mode and manner of all investigations, inspections and hearings
Title 9 – Agriculture 901:5 – 53-05	Migrant field worker safety	Explains safety guidelines for migrant field workers
Title 9 – Agriculture 901:5 – 11-02	General safety provisions, supervision	Safety guidelines to protect pesticide applicators and their employees
Title 9 – Agriculture 905.40	Rules	Director of Agriculture may promulgate, adopt and enforce uniform rules. (B) for safety, design, construction, location, installation or operation of anhydrous ammonia, aqueous ammonia or other solutions for use as agricultural fertilizers
Title 9 – Agriculture 905.46.1	Prohibition of use of non-complying anhydrous ammonia equipment; release	Director of Agriculture may issue order prohibiting use of anhydrous ammonia equipment if not in compliance with 905.40
Title 9 – Agriculture 921.25 (A)	Pesticides - Prohibitions	It is unlawful for any person to apply, use, directly supervise such application of use, or recommend a pesticide for use inconsistent with its labeling, treatment stds. or other restrictions imposed by the director of agriculture
Title 9 – Agriculture 921.25 (G)	Pesticides – Prohibitions	It is unlawful for any person to operate in a negligent manner, which includes the operation of faulty or unsafe equipment
Title 37 – Health-Safety-Morals 3701-33, 3701-33-17	Agricultural labor camps Fire, safety and first-aid	Provides fire, safety and first-aid guidelines for labor camps
State Law Number	Title	Explanation
Title 41 – Labor and Industry 4101.11	Duty of employer to protect employees and frequenters	Establish safe procedures to protect employees and frequenters
Title 41 – Labor and Industry 4101.12	Duty of employer to furnish safe place of employment	Establish a safe working environment for employees and frequenters
Title 41 – Labor and Industry 4101.13	Duties of employees	Employee shall abide by safety guidelines and not remove, destroy or damage safety devices and guards
Title 41 – Labor and Industry 4101:9 – 2-03	Hazardous occupations in agriculture	No minor under 16 may be employed for listed occupations. Some exemptions of minors apply; L (1) and (2))
Title 45 – Motor Vehicles 4513.11	Lamps, reflectors and emblems for animal-drawn or slow moving vehicles	Lighting and marking requirements for slow moving vehicles and buggies
Title 45 – Motor Vehicles 4513-11.1	Lights and reflectors for multi-wheel agricultural tractors and farm machinery units	Lighting and marking requirements for Multi-wheel tractors and farm implements

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